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DATE: Saturday, August 20, 2005

<u>Hide?</u>	<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L10	reformer with regenerat\$3 with fuel with compress\$3 near2 air	6
<input type="checkbox"/>	L9	L2 and gas turbine	6
<input type="checkbox"/>	L8	L7 and gas turbine	0
<input type="checkbox"/>	L7	us 20020170228	2
<input type="checkbox"/>	L6	L5 and gas turbine	0
<input type="checkbox"/>	L5	6512018.pn.	2
<input type="checkbox"/>	L4	L3 and gas turbine	0
<input type="checkbox"/>	L3	6495610.pn.	2
<input type="checkbox"/>	L2	separat\$3 near4 hydrogen with fuel with (reform\$2 or reactor) and fischer tropesch	21
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L1	separat\$3 near4 hydrogen with fuel with (reform\$2 or reactor)	505

END OF SEARCH HISTORY

[First Hit](#) [Fwd Refs](#)[Previous Doc](#) [Next Doc](#) [Go to Doc#](#) [Generate Collection](#) [Print](#)

L10: Entry 2 of 6

File: USPT

Feb 15, 2000

DOCUMENT-IDENTIFIER: US 6025403 A

TITLE: Process for heat integration of an autothermal reformer and cogeneration power plant

Brief Summary Text (24):

As described in U.S. Pat. No. 5,624,964, the integration, in part, involves drawing off a portion of compressed air from a compressed air flow from a gas turbine power plant compressor. This "borrowed" compressed air is introduced into the combustion section, i.e., the combustor-regenerator, of the autothermal reformer reactor together with fuel gas. A small booster compressor for the borrowed air is optionally utilized to compensate for pressure drop in the combustor-regenerator. The "borrowed", compressed air and also some extra heat is later returned to the power plant by mixing hot, compressed off gases from the combustor-regenerator with the power plant compressed air flow which is being conveyed to the power plant combustor. The mixing of the hot flue gases and the rest of the compressed air flow lowers the temperature of the off gases sufficiently to allow removal of inorganic metal oxide fines and other fines by filtration, without any thermodynamic losses. At the same time, the temperature and pressure of the air flow to the power plant combustor are increased to facilitate combustion.

[Previous Doc](#) [Next Doc](#) [Go to Doc#](#)